Longwood Swallet, Charterhouse-on-Mendip.

By R. D. and A. H. Stride.

The Long Wood valley takes the excess water from the strong overflow springs (at the junction of the Lower Limestone Shales and Old Red Sandstone) rising on the south side of Blackdown. To-day the Axbridge R.D.C. takes the greater part of this water. The stream now descending the swallets is only a small fraction of what was available at one time.

DESCRIPTION OF THE SITE

The entrance to the system lies in Long Wood valley 200 yd. south of Lower Farm, Charterhouse. The wooded valley is to be found on the 6-inch O.S. Map (Somerset Sheet XVIII S.W.).

Besides the two swallets which carry the stream direct into the cave system, there is another swallet which has no connexion. This is at the junction of the two arms of Long Wood. It is choked after a few feet.

There is a miniature gorge at the approach to the upper swallet. At its terminal point was a vertical face of rock, through which the water seeped. This often became choked. The stream then ran down to the lower swallets. It was at the rock face that work was started.

THE EXCAVATION

Permission having been obtained, we, together with a small party of Sidcot boys, started excavating the refuse at the foot of the rock face. Over a period of several weeks, we removed over 100 cu. ft. of leaves and detritus. Rock bottom was reached. In view of this we drove forward into the fissured rock face. Over 7 tons of rock were removed.

At a distance of 12 feet from the rock face we broke into a shaft cut by water action at the junction of two vertical rifts. This was somewhat choked. We cleared this and made the difficult descent of 35 ft. At the bottom we entered an enlargement of the major rift. It was here that our difficulties really began. Rain had been very heavy in the past months. A large volume of water made the shaft impassable. We succeeded in diverting the stream with a dam, and once more attempted to make the descent. The stability of the rocks was uncertain. The shaft appeared to be a mass of unstable rock. Conditions were bad. To make them worse, we were saturated by a sheet of falling water, the drainage from the stream bed and sodden valley floor. Under

these appalling conditions, the two of us spent many long hours, removing the most dangerous rocks and attempting to clear the way into a low bedding plane beyond.

It was on one of these occasions with the stream running high and threatening to break the dam, that we made a determined effort and forced our way into the bedding plane. Equipped with tools, we made our way after several hours to the head of the first pot. We returned later with equipment and descended the pot, pushing the perilously poised boulders on to the boulder pile beneath. Exploration was continued to the 33 ft. drop and great chamber.

Later, we were advised not to involve the Sidcot boys in the dangers of the cave, and so continued by ourselves.

It was a month later, in April 1945, that the Bristol University Spelæological Society informed us of their desire to descend the cave. In conjunction with them and a party of the Wessex Cave Club, we completed the exploration of the system.

After the exploration, a shaft was sunk from the surface to the head of the entrance shaft. The old horizontal entrance to this is now out of use.

THE CAVE SYSTEM

The 42-ft. vertical entrance shaft leads into the water rift. This is the wettest part of the cave in the winter months. A tight squeeze leads into the bedding plane that runs down to the head of the two 10-ft. verticals and the great rift. This bedding plane has been deeply cut by water action. An easy rope climb takes one to the bottom of the first vertical. A narrow rift brings in the water from the entrance shaft. At the bottom of the lower 10-ft. vertical is an unstable boulder pile. The great rift runs off right and left. To the right is a very dangerous water chamber. The stream from the lower swallet enters here and descends 30 ft. into the floor. It is lost in a choke. There is always a heavy drip in this chamber.

To the left, and descending the boulder pile, the roof gradually rises. Near to the end, the rift is 90 ft. high. It is beautifully decorated with formations. Bosses and curtains abound. Cave pearls are to be found on the lesser slopes. At this point a small tributary enters from the roof. This runs down to the end of the cave.

On the right a narrow rift leads by tortuous squeezes to the head of the 33-ft. pitch into the great chamber. This drop is easier than is to be expected. A squeeze to one side makes it possible to pass round and under the edge of the drop. A climb takes one down to a ledge with easy access to the great chamber. It is advisable to use a rope.

THE GREAT CHAMBER

The descent to the bottom of the great chamber is made by descending a series of terraces and active pot-holes. The stream sinks in a sand-choke at the bottom of the pots. It is next seen coming from a tunnel on the right hand side of the wet way. The great chamber is divided into two parts by the roof. (See Plan and North-South Section.) On the south side are the terraces rising from floor to roof. High up in the south-east corner is the grotto. This contains some very fine formations and is well worth a visit. On the north side of the great chamber the roof rises to its full height again. In the north-east corner a passage leads away to the foot of a 25-ft. waterfall. An iron ladder or a pole is necessary to ascend this. The water from here flows down the passage to within a few feet of the great chamber, whence it flows by an impassable rift to the head of the twin pots. The climb up to the foot of the waterfall is dangerous. The rock dips steeply to the south. A great deal of it is rotten, and there are numerous loose boulders.

On the floor again an unstable boulder pile slopes down steeply to the east end, the lowest part of the great chamber. A way can be seen dropping vertically down through the boulders.

THE TWIN POTS AND WET WAY

The entrance to the twin pots is partly blocked by a pile of mud and loose rock. A short vertical takes one to the floor of the upper twin pot. A rope is of great help. A large tributary enters the pot high up in the north wall. This is joined by the stream from the great chamber which enters at the bottom of the lower pot. This water continues to the farthest point in the cave. In the east wall of the twin pots are some large curiously marked calcite crystals. On the opposite wall the shale bands are highly contorted. The wet way is a narrow passage carrying the stream to the farthest part of the cave. Active pot holes of little depth line the floor. From evidence it is known that this part of the cave is totally filled with water in times of flood, although in periods of drought very little water flows. Several small tributary streams enter on the left-hand side of the wet way. A short distance from the end the wet way divides. The upper dry passage leads off for 45 ft. to a squeeze. This is in shale. The floor drops away steeply to flowing water. A person of small build could pass this point. The wet lower passage takes the stream to the lowest point in the cave. This is slightly awkward to follow. The stream flows away in a south-easterly direction.

The gradient of the cave is one of the steepest in Mendip. The whole character changes, however, as soon as the wet way is reached. The large open passages are left behind. Instead the wet way is a

miserably poor finish. The wet way is situated in shale beds and bands of poor limestone. Its gradient is slight.

THE FORMATION

The cave was formed by a series of at least four swallets situated in the Long Wood Valley. The passages formed by each are now joined. In consequence of this the cave is partly under the valley floor. The swallets will now be considered separately with regard to the part played by each. The youngest, or the one farthest up the valley, will be considered first. This is the present entrance to the cave. It is formed by the enlargement of two vertical cross rifts. It is capable of taking the full volume of water. It is situated in an area of much fractured rock, and in consequence it is one of many other entrances for the water. The others are now choked. There is evidence of one leading up from the head of the bedding plane to the surface. This is now dry. Its course along the bedding plane is easily followed, by the deep square cut made by the water, to the head of the first 10-ft. pot. The youngest swallet is still being formed some 70 yd. up the valley from the cave entrance. In time of drought the Long Wood stream can be seen sinking in its bed.

The present course of the water is down the entrance shaft, through the water rift and to the bottom of the first pot. From here it drops down the second pot to the boulder pile beneath.

The next swallet down the valley is also capable of taking the full stream. This feeds its water into the water chamber. Here it drops 30 ft. to a choke and is lost. This swallet, like the upper one, is situated in very fractured limestone. The passage of the water from the swallet cannot be followed into the water chamber. At one time the water ran the length of the great rift, down the rift to where the great chamber is to-day. Here it altered the work done by an even older swallet which dropped its water into the south end of the great chamber. With the passage of time the water chamber was fashioned into its present shape and the water found its way to lower levels. The great rift was left almost dry.

To-day a small stream drops from the roof at the south end of the great rift. This is slowly eroding masses of stalagmite on the floor. It must either have increased in volume or have changed position. It is this water which now finds its course down the rift to the head of the 33-ft. pitch, into the great chamber, and to the end of the cave in place of the Long Wood stream.

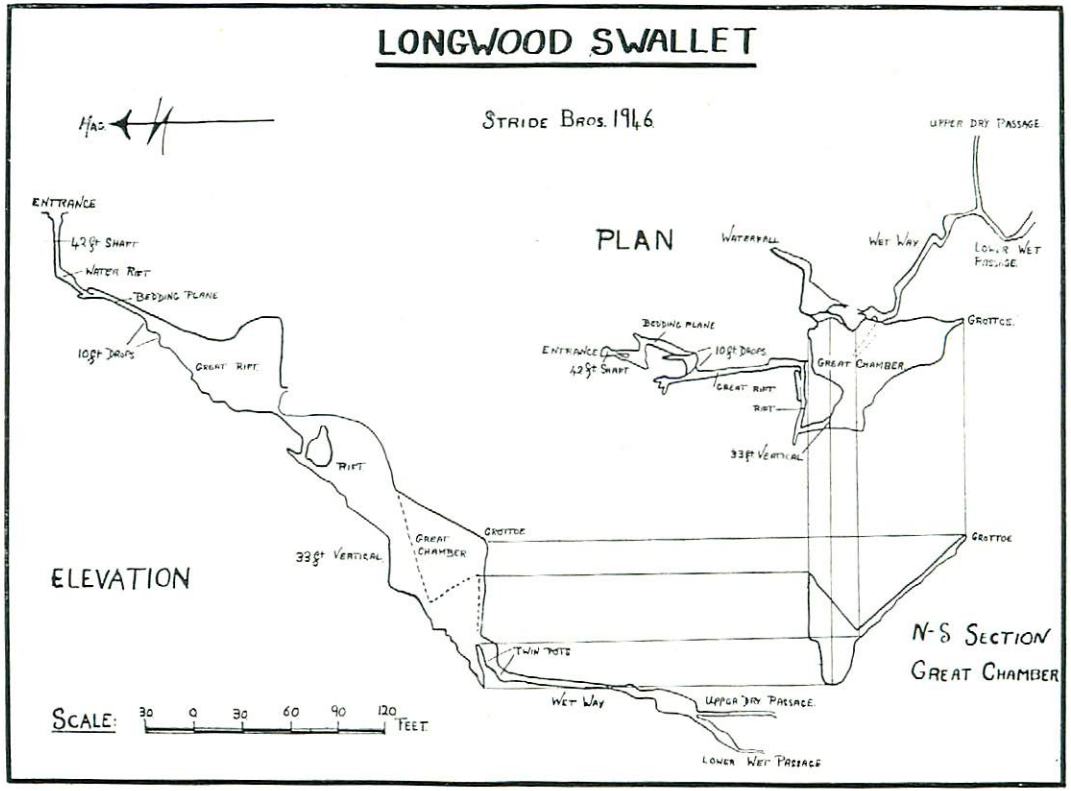
The third and oldest swallet is to be found above the southern portion of the great chamber. The water carved a series of great pot

holes from roof to floor. These are partly in use to-day. They were most certainly in use when the Long Wood stream coursed along the great rift to the great chamber.

The northern section of the chamber was formed by a stream which is now to be seen entering the upper of the twin pots. It entered the great chamber high up in the north-east corner. After a time it opened up a way into the southern section of the great chamber. The boulders are now to be seen lying on the floor and are filling a large cavity beneath.

The twin pots are still being formed by the stream that once fell into the great chamber. The floor of the upper pot was once level with part of the great chamber. There is now a large pile of rock and mud between the two.

PLATE 3.


LONGWOOD SWALLET
STRIDE BROS. 1946
MAG.
PLAN
ENTRANCE
42ft SHAFT
WATER RIFT
BEDDING PLANE
10ft DROPS
GREAT RIFT
RIFT
33ft VERTICAL
GROTTOE
GREAT CHAMBER
TWIN POTS
WET WAY
UPPER DRY PASSAGE
LOWER WET PASSAGE
WATERFALL
GROTTOS
ELEVATION
N-S SECTION
GREAT CHAMBER
SCALE: 30 0 30 60 90 120 FEET